

REMARKS

This Amendment and Reply is filed in response to the Office action mailed May 20, 2003. It is being filed within the shortened three month period set for response and no Petition for Extension of Time or fee is therefore required.

In the amended Figures 1A- 10D, the required corrections have been made.

Claims 2-9, 11, 17 and 19 remain in this application and new claims 20-22 have been added. Claims 1, 12-16 and 18 have been withdrawn as the result of an earlier restriction requirement. Claim 10 has been previously cancelled in an earlier amendment and reply.

Claims 2-4, 6, 8, 9, 11, 17 and 19 have been amended, and claims 20-22 have been added. Claim 17 has been amended to recite subject matter recited in claim 6 and to add the limitation of illumination with electromagnetic radiation, as described throughout the specification. New claim 20 has been added to recite subject matter that is recited in claim 8 in an independent claim. New claim 21 has been added to recite subject matter that is recited in Claim 11 in an independent claim. Newly added claim 22 recites subject matter that is described in the specification as filed, for example, at the first paragraph, first sentence on page 19.

It is urged that there is a clear basis in the application for the claim amendments and the newly added claims. The claim amendments and claim additions are not made for any reason related to patentability but, rather, to more clearly and specifically recite the elected invention, and to recite subject matter set out in dependent claims into independent claims.

Rejections under §102(b)

I. Claims 3-5, 7, 9, 17 and 19 were rejected under 35 U.S. C. 102(b) as being anticipated by O'Brien, et al., Journal of Dental Research 1989 (vol. 68 (2), pages 157-158) (hereinafter referred to as "OBrien").

Applicant does not acquiesce in this rejection. For purposes of expediting prosecution, however, the claim 17 has been amended and new independent claims 20-22 have been added.

Claim 17

Amended claim 17 recites the comparison data being derived from empirically determined controls. This is subject matter that is recited in claim 6.

O'Brien describes the use of a dye to detect dental lesions in teeth with transillumination. O'Brien fails to teach the use of empirically derived controls. Indeed, O'Brien is not cited against dependent claim 6, which recites the use of empirically derived controls. Therefore, Applicant submits that amended claim 17 is also not anticipated by O'Brien.

Claim 20

New claim 20 recites maintaining multiple sample populations in an *in vitro* culture system. This is subject matter that is recited in claim 8.

O'Brien is not cited against dependent claim 8, which recites the use of multiple sample populations in an *in vitro* culture system. O'Brien fails to teach such multiple sample populations in an *in vitro* culture system, but rather describes the use of teeth as samples. Therefore, Applicant submits that claim 20 is also not anticipated by O'Brien.

Claim 21

Furthermore, newly presented claim 21 recites a sample of biological material in a viable intact organism. This is subject matter that is recited in claim 11.

O'Brien is not cited against dependent claim 11, which recites the use of viable intact organism samples. O'Brien also fails to teach such viable intact organism samples, but rather describes the use of extracted teeth as samples. *See*, O'Brien, Figure (top) caption on page 158. Therefore, Applicant submits that claim 21 is also not anticipated by O'Brien.

Claim 22

Furthermore, newly presented claim 22 includes the following limitation:

illuminating the at least one sample population with
electromagnetic radiation (emr) having a wavelength of from
700-2500 nm.

The present Application teaches that the use of an emr wavelength between 700 nm and 2500 nm, e.g. infrared light, is particularly useful, for example, in viewing samples lying beneath other tissue or cells. *See*, Present Application, page 19, paragraph one.

By comparison, O'Brien describes the use of yellow tungsten light. Nowhere in O'Brien is there mention of the use of light in the range of 700-2500 nm, or that infrared light may be employed. On the contrary, O'Brien indicates that the use of colored light is important to the

detection of dye absorption, as follows: "...the absorption of light by the dye will be maximum when the color of the dye is the complementary color of the light color." O'Brien, page 158, col. 2. Moreover, O'Brien teaches detecting of lesions in extracted teeth samples that do not lie beneath other tissue. Therefore, there would be no motivation to use a wavelength from 700 nm to 2500 nm. Applicant believes that new claim 22 also is not anticipated by O'Brien.

For at least the above reasons, it is urged that this rejection may be properly withdrawn for all independent claims and dependent claims currently pending in this Application.

II. Claims 2, 6, 11 and 17 were rejected under 35 U.S. C. 102(b) as being anticipated by Mashberg, U.S. Pat. No. 4,321,251 (hereinafter referred to as "O'Brien").

Mashberg teaches a method of detecting malignant lesions of the oral cavity by rinsing with a blue dye and observing a blue stain appearing lesion area.

The amended claim 17, as well as newly presented independent claims 20-22 include the following limitation:

illuminating the at least one sample population with
electromagnetic radiation (emr).

By contrast, Hansen does not teach the illumination of the sample with emr. Therefore amended claim 17 is not anticipated by Mashberg. Furthermore, dependent claim 2, 6 and 11 are not anticipated.

In addition, newly presented claims 21, including subject matter from claim 11 is also not anticipated by Mashberg. New claims 20-22 also include the limitation of the illuminating step of amended claim 17. Therefore, it is urged that all independent claims and their dependent claims are not anticipated by Mashberg.

III. Claims 3, 7, 8 and 17 were rejected under 35 U.S. C. 102(b) as being anticipated by Hansen, et al., Diabetes Research (Feb. 1989 (vol. 10(2), pages 53-57) (hereinafter referred to as "Hansen").

The amended claim 17, as well as newly presented independent claims 20-22 include the following limitation:

illuminating the at least one sample population with
electromagnetic radiation (emr).

By contrast, Hansen does not teach the illumination of the sample with emr. Therefore amended claim 17 is not anticipated by Hansen. Furthermore, dependent claims 3, 7, 8 are not anticipated.

In addition, newly presented claims 20, including subject matter from claim 8 is also not anticipated by Hansen. New claims 20-22 also include the limitation of the illuminating step of amended claim 17. Therefore, it is urged that all independent claims and their dependent claims are not anticipated by Hansen.

It is urged, therefore, that this rejection may be properly withdrawn with regards to all pending claims, including new claims 20-22.

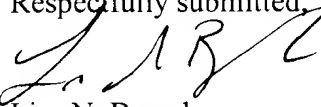
Conclusion

Accordingly, in view of the above remarks, it is submitted that this application is now ready for allowance. Early notice to this effect is solicited.

If the Examiner has any questions or comments, Applicant respectfully requests that the Examiner contact the undersigned by telephone at **(206) 382-1191**.

Charge Deposit Account

Please charge any additional fees that may be required, or credit any overpayment, to our Deposit Account No. 19-3555.

Respectfully submitted,

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Attachments